



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/030,566
Source: PCR/10
Date Processed by STIC: 2/8/2002

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
Or
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER: 10/030, 566

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics
 Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 Misaligned Amino
 Numbering The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 PatentIn 2.0
 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 Skipped Sequences
 (OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
 (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 This sequence is intentionally skipped

 Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8 Skipped Sequences
 (NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.
 <210> sequence id number
 <400> sequence id number
 000
- 9 Use of n's or Xaa's
 (NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.
 Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
 In <220> to <223> section, please explain location of n or Xaa; and which residue n or Xaa represents.
- 10 Invalid <213>
 Response Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11 Use of <220> Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
 Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
 (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 PatentIn 2.0
 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 Misuse of n n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.



PCT10

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

3 <110> APPLICANT: Bayer AG
 5 <120> TITLE OF INVENTION: DNA coding for ?-tubulin and its use
 7 <130> FILE REFERENCE: Le A 33 759
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/030,566
 C--> 10 <141> CURRENT FILING DATE: 2002-01-07
 12 <160> NUMBER OF SEQ ID NOS: 51
 14 <170> SOFTWARE: PatentIn Ver. 2.1

error throughout

ERRORED SEQUENCES

**Does Not Comply
Corrected Diskette Needed**

16 <210> SEQ ID NO: 1
 17 <211> LENGTH: 1380
 18 <212> TYPE: DNA
 19 <213> ORGANISM: Cyathostomum coronatum
 21 <220> FEATURE:
 22 <221> NAME/KEY: CDS
 23 <222> LOCATION: (1)..(1344)
 25 <400> SEQUENCE: 1

pp 2-3

26	atg	cgt	gag	atc	gtg	cat	gta	caa	gct	gga	caa	tgt	gga	aac	caa	att	48
27	Met	Arg	Glu	Ile	Val	His	Val	Gln	Ala	Gly	Gln	Cys	Gly	Asn	Gln	Ile	
28	1				5				10				15				
30	ggt	tcc	aag	ttt	tgg	gaa	gtg	atc	tct	gac	gag	cat	ggc	att	aag	ccc	96
31	Gly	Ser	Lys	Phe	Trp	Glu	Val	Ile	Ser	Asp	Glu	His	Gly	Ile	Lys	Pro	
32			20					25				30					
34	gat	ggc	aca	tac	cac	gga	gaa	tct	gat	cta	caa	tta	gaa	cga	atc	aat	144
35	Asp	Gly	Thr	Tyr	His	Gly	Glu	Ser	Asp	Leu	Gln	Leu	Glu	Arg	Ile	Asn	
36		35					40				45						
38	gtg	tac	tat	aat	gaa	gca	cat	gga	ggc	aaa	tat	gtc	cca	cgt	gca	gtt	192
39	Val	Tyr	Tyr	Asn	Glu	Ala	His	Gly	Gly	Lys	Tyr	Val	Pro	Arg	Ala	Val	
40		50				55					60						
42	ctt	gtt	gat	ctc	gag	ccc	gga	act	atg	gat	tcc	gtc	cgt	tcc	ggg	cca	240
43	Leu	Val	Asp	Leu	Glu	Pro	Gly	Thr	Met	Asp	Ser	Val	Arg	Ser	Gly	Pro	
44	65					70				75				80			
46	tac	ggg	caa	ttg	ttc	cgc	cct	gat	aac	tac	gtg	ttt	gga	cag	tct	ggc	288
47	Tyr	Gly	Gln	Leu	Phe	Arg	Pro	Asp	Asn	Tyr	Val	Phe	Gly	Gln	Ser	Gly	
48			85					90				95					
50	gca	gga	aat	aac	tgg	gca	aaa	ggt	cac	tac	act	gaa	ggc	gct	gaa	ctt	336
51	Ala	Gly	Asn	Asn	Trp	Ala	Lys	Gly	His	Tyr	Thr	Glu	Gly	Ala	Glu	Leu	
52			100					105				110					
54	gtc	gac	aat	gta	cta	gat	gta	gtg	cga	aaa	gaa	gca	gaa	gga	tgt	gac	384
55	Val	Asp	Asn	Val	Leu	Asp	Val	Val	Arg	Lys	Glu	Ala	Glu	Gly	Cys	Asp	
56		115				120						125					

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

58 tgt ctg cag ggc ttc cag cta act cac tca ctt gga gga ggt acc ggt 432
59 Cys Leu Gln Gly Phe Gln Leu Thr His Ser Leu Gly Gly Thr Gly
60 130 135 140
62 tcg ggt atg ggc act ctc ctc atc tcc aaa att cgg gag gag tat cct 480
63 Ser Gly Met Gly Thr Leu Leu Ile Ser Lys Ile Arg Glu Glu Tyr Pro
64 145 150 155 160
66 gat aga atc atg tcc tcg ttc tcc gtt gtc ccc tca cca aag gtc tcc 528
67 Asp Arg Ile Met Ser Ser Phe Ser Val Val Pro Ser Pro Lys Val Ser
68 165 170 175
70 gac act gtt gtg gag cct tac aat gct acc cta tcc gtt cat cag ttg 576
71 Asp Thr Val Val Glu Pro Tyr Asn Ala Thr Leu Ser Val His Gln Leu
72 180 185 190
74 gtt gaa aat aca gac gag act tat tgt att gac aat gaa gcc ctg tat 624
75 Val Glu Asn Thr Asp Glu Thr Tyr Cys Ile Asp Asn Glu Ala Leu Tyr
76 195 200 205
78 gat att tgc ttc cgc act ttg aaa ctc acg aac cca act tat gga gat 672
79 Asp Ile Cys Phe Arg Thr Leu Lys Leu Thr Asn Pro Thr Tyr Gly Asp
80 210 215 220
82 ctg aat cat ctt gtg tct gta aca atg tct ggt gtc acc aca tgt ctt 720
83 Leu Asn His Leu Val Ser Val Thr Met Ser Gly Val Thr Thr Cys Leu
84 225 230 235 240
86 cgc ttc cct ggc caa ttg aat gcc gat cta cgc aaa cta gct gtt aac 768
87 Arg Phe Pro Gly Gln Leu Asn Ala Asp Leu Arg Lys Leu Ala Val Asn
88 245 250 255
90 atg gtt cca ttc cct cgt ctt cac ttc ttc atg cct ggt ttt gct cct 816
91 Met Val Pro Phe Pro Arg Leu His Phe Phe Met Pro Gly Phe Ala Pro
92 260 265 270
94 ctt tct gct aaa ggt gct cag gct tac cgt gct ctt acc gta gcc gag 864
95 Leu Ser Ala Lys Gly Ala Gln Ala Tyr Arg Ala Leu Thr Val Ala Glu
96 275 280 285
98 ctt aca cag cag atg ttt gat gct aag aat atg atg gct gct tgc gac 912
99 Leu Thr Gln Gln Met Phe Asp Ala Lys Asn Met Met Ala Ala Cys Asp
100 290 295 300
102 cct cga cat gga cgt tat ctc acc gtc gca gcc atg ttc cga gga aga 960
103 Pro Arg His Gly Arg Tyr Leu Thr Val Ala Ala Met Phe Arg Gly Arg
104 305 310 315 320
E--> 106 atg agc atg agg gaa gta gac gac cag atg atg tca gtg cag aac aag 1008 (format
107 1008
108 Met Ser Met Arg Glu Val Asp Asp Gln Met Met Ser Val Gln Asn Lys
109 325 330 335
E--> 111 aac tcc tca tac ttc gta gag tgg atc ccg aac aac gtg aag acc gct 1056
112 1056
113 Asn Ser Ser Tyr Phe Val Glu Trp Ile Pro Asn Asn Val Lys Thr Ala
114 340 345 350
E--> 116 gta tgc gac atc ccg cca cga gga ctg aag atg gcc gct acc ttc gtt
117 1104
118 Val Cys Asp Ile Pro Pro Arg Gly Leu Lys Met Ala Ala Thr Phe Val
119 355 360 365
E--> 121 gga aac tca act gcc atc caa gag ctg ttc aag cgc att tca gaa caa

```

1008 (format
 error -
 see item 1
 on Error
 Summary Sheet)

same

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

122 1152
123 Gly Asn Ser Thr Ala Ile Gln Glu Leu Phe Lys Arg Ile Ser Glu Gln
124      370      375      380
E--> 126 ttt aca gcc atg ttc cgc cgc aaa gcg ttc ttg cat tgg tac act ggt sane
127 1200
128 Phe Thr Ala Met Phe Arg Arg Lys Ala Phe Leu His Trp Tyr Thr Gly
129 385      390      395      400
E--> 131 gaa ggt atg gac gag atg gag ttc act gaa gca gag tcc aac atg aat sane
132 1248
133 Glu Gly Met Asp Glu Met Glu Phe Thr Glu Ala Glu Ser Asn Met Asn
134      405      410      415
E--> 136 gat ctc atc tcc gag tac caa cag tac cag gaa gcc acc gct gac gac sane
137 1296
138 Asp Leu Ile Ser Glu Tyr Gln Gln Tyr Gln Glu Ala Thr Ala Asp Asp
139      420      425      430
E--> 141 atg ggc gat ctt gat gcg gaa ggc gct gaa gag gct tat cct gag gaa sane
142 1344
143 Met Gly Asp Leu Asp Ala Glu Gly Ala Glu Glu Ala Tyr Pro Glu Glu sane
144      435      440      445
E--> 146 taaaccagca gatcgtgttg cggtgttcgt ttctct
147 1380
242 <210> SEQ ID NO: 3
243 <211> LENGTH: 1429
244 <212> TYPE: DNA
245 <213> ORGANISM: Cylicocyclus nassatus
247 <220> FEATURE:
248 <221> NAME/KEY: CDS
249 <222> LOCATION: (1)..(1362)
251 <400> SEQUENCE: 3
252 aag ttc tct act gca ata atg cgt gag atc gtg cat gta caa gct gga 48
253 Lys Phe Ser Thr Ala Ile Met Arg Glu Ile Val His Val Gln Ala Gly
254 1 5 10 15
256 car tgt gga aac caa att ggy tcc aag tty tgg gaa gtg atc tct gac 96
257 Gln Cys Gly Asn Gln Ile Xaa Ser Lys Phe Trp Glu Val Ile Ser Asp
258 20 25 30
260 gag cac ggc att aag ccy gay ggc aca tac cay gga gaa tct gay yta 144
261 Glu His Gly Ile Lys Xaa Asp Gly Thr Tyr His Gly Glu Ser Asp Xaa
262 35 40 45
264 caa tta gaa cga atc aat gtg tac tat aat gaa gca cat gga ggc aar 192
265 Gln Leu Glu Arg Ile Asn Val Tyr Tyr Asn Glu Ala His Gly Gly Lys
266 50 55 60
268 tat gtc ccg cgt gca gtt ctt gtt gat ctc gag ccc gga act atg gat 240
269 Tyr Val Pro Arg Ala Val Leu Val Asp Leu Glu Pro Gly Thr Met Asp
270 65 70 75 80
272 tcr gtc cgy tcy ggg cca tac ggg caa ttg ttc cgc cct gat aac tac 288
273 Xaa Val Xaa Xaa Gly Pro Tyr Gly Gln Leu Phe Arg Pro Asp Asn Tyr
274 85 90 95
276 gtg ttt gga cag tct ggc gca gga aat aac tgg gca aaa ggt cac tac 336
277 Val Phe Gly Gln Ser Gly Ala Gly Asn Asn Trp Ala Lys Gly His Tyr

```

*see
pp 4-5*

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

278      100      105      110
280 act gaa ggy gct gaa ctt gtc gac aat gta cta gat gta gtg cga aaa 384
281 Thr Glu Xaa Ala Glu Leu Val Asp Asn Val Leu Asp Val Val Arg Lys
282      115      120      125
284 gaa gct gaa gga tgt gac tgt ctg cag ggc ttc cag cta act cac tca 432
285 Glu Ala Glu Gly Cys Asp Cys Leu Gln Gly Phe Gln Leu Thr His Ser
286      130      135      140
288 ctt gga gga ggt acc gga tgc rgt atg ggc acw ctc ctc atc tyc aaa 480
289 Leu Gly Gly Gly Thr Gly Ser Xaa Met Gly Xaa Leu Leu Ile Xaa Lys
290 145      150      155      160
292 att cgg gag gag tat cct gat aga atc atr tcc tcg ttc tyc gtt gtt 528
293 Ile Arg Glu Glu Tyr Pro Asp Arg Ile Xaa Ser Ser Phe Xaa Val Val
294      165      170      175
296 ccc tca cca aag gtc tyc gay acy gtt gtg gag ccg tac aat gct acc 576
297 Pro Ser Pro Lys Val Xaa Asp Xaa Val Val Glu Pro Tyr Asn Ala Thr
298      180      185      190
300 cta tcc gtt cat cag ttg gtt gaa aat aca gac gar act twc tgt att 624
301 Leu Ser Val His Gln Leu Val Glu Asn Thr Asp Glu Thr Xaa Cys Ile
302      195      200      205
304 gac aat gaa gct ctt tat gat att tgc ttc cgc acy ytg aaa ctc acs 672
305 Asp Asn Glu Ala Leu Tyr Asp Ile Cys Phe Arg Xaa Xaa Lys Leu Xaa
306      210      215      220
308 aac cca act tat gga gat ctg aat cat ctt gtg tct gta aca atg tct 720
309 Asn Pro Thr Tyr Gly Asp Leu Asn His Leu Val Ser Val Thr Met Ser
310 225      230      235      240
312 ggy gtc act aca tgy ctt cgc ttc cct ggc caa ttg rry gcc gat ctw 768
313 Xaa Val Thr Thr Cys Leu Arg Phe Pro Gly Gln Leu Xaa Ala Asp Xaa
314      245      250      255
316 cgt aaa cta gct gtt aac atg gyt cca ttc cct cgt ctt cac tty tty 816
317 Arg Lys Leu Ala Val Asn Met Xaa Pro Phe Pro Arg Leu His Phe Phe
318      260      265      270
320 atg cct ggc ttt gct ccc ctc tct gcy aaa ggc gcy cag gct tac cgt 864
321 Met Pro Gly Phe Ala Pro Leu Ser Xaa Lys Gly Xaa Gln Ala Tyr Arg
322      275      280      285
324 gct ctt act gta gcc gag ctw acy caa yag atg ttc gat gcc aaa aat 912
325 Ala Leu Thr Val Ala Glu Xaa Xaa Gln Xaa Met Phe Asp Ala Lys Asn
326      290      295      300
328 atg atg gcc gct tgc gac cct cga cat gga crt tat ctc acc gty gca 960
329 Met Met Ala Ala Cys Asp Pro Arg His Gly Xaa Tyr Leu Thr Xaa Ala
330 305      310      315      320
E--> 332 gcc atg ttc cga gga cga atg agc ayg agg gar gta gac gac cag atg 1008
333 1008
W--> 334 Ala Met Phe Arg Gly Arg Met Ser Xaa Arg Glu Val Asp Asp Gln Met
335      325      330      335
E--> 337 atg tca gtg cag aac aag aac tcc tca tac ttc gta gag tgg att ccg 1056
338 1056
339 Met Ser Val Gln Asn Lys Asn Ser Ser Tyr Phe Val Glu Trp Ile Pro
340      340      345      350
E--> 342 aac aac gtc aar acc gcy gta tgc gac att ccg ccr aga gga ctg aaa

```

(see
item 1
on Enw
summary
sheet)

same enw

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

343 1104
W--> 344 Asn Asn Val Lys Thr Xaa Val Cys Asp Ile Pro Xaa Arg Gly Leu Lys
      345          355          360          365
E--> 347 atg gcc gct acc ttc gtt gga aac yca act gcc aty caa gag ctg tty
      348 1152
W--> 349 Met Ala Ala Thr Phe Val Gly Asn Xaa Thr Ala Xaa Gln Glu Leu Phe
      350          370          375          380
E--> 352 aag cgc att tca gaa caa tty aca gct atg ttc cgc cgc aaa gcg tty
      353 1200
      354 Lys Arg Ile Ser Glu Gln Phe Thr Ala Met Phe Arg Arg Lys Ala Phe
      355 385          390          395          400
E--> 357 ttg cat ygg tay act ggw gaa ggt atg gay gag atg gag ttc act gaa
      358 1248
W--> 359 Leu His Xaa Tyr Thr Xaa Glu Gly Met Asp Glu Met Glu Phe Thr Glu
      360          405          410          415
E--> 362 gcc gag tcc aac atg aat gat ctc atc tcc gaa tac car caa tac cag
      363 1296
      364 Ala Glu Ser Asn Met Asn Asp Leu Ile Ser Glu Tyr Gln Gln Tyr Gln
      365          420          425          430
E--> 367 gaa gct acm gct gac gat atg ggc gat ctc gat gcg gaa ggc gct gaa
      368 1344
W--> 369 Glu Ala Xaa Ala Asp Asp Met Gly Asp Leu Asp Ala Glu Gly Ala Glu
      370          435          440          445
E--> 372 gag gct tac cct gar gaa tagamcagca gaytgtgttg cgttgttcgt
      373 1392
      374 Glu Ala Tyr Pro Glu Glu
      375          450
E--> 377 ttctctrtgt caatgcgaaa tacacattga ttgcgtt
      378 1429
      381 <210> SEQ ID NO: 4
      382 <211> LENGTH: 454
      383 <212> TYPE: PRT
      384 <213> ORGANISM: Cylicocyclus nassatus
      386 <400> SEQUENCE: 4
      387 Lys Phe Ser Thr Ala Ile Met Arg Glu Ile Val His Val Gln Ala Gly
      388 1          5          10          15
E--> 390 Gln Cys Gly Asn Gln Ile Xaa Ser Lys Phe Trp Glu Val Ile Ser Asp
      391          20          25          30
E--> 393 Glu His Gly Ile Lys Xaa Asp Gly Thr Tyr His Gly Glu Ser Asp Xaa
      394          35          40          45
      396 Gln Leu Glu Arg Ile Asn Val Tyr Tyr Asn Glu Ala His Gly Gly Lys
      397          50          55          60
      399 Tyr Val Pro Arg Ala Val Leu Val Asp Leu Glu Pro Gly Thr Met Asp
      400 65          70          75          80
E--> 402 Xaa Val Xaa Xaa Gly Pro Tyr Gly Gln Leu Phe Arg Pro Asp Asn Tyr
      403          85          90          95
      405 Val Phe Gly Gln Ser Gly Ala Gly Asn Asn Trp Ala Lys Gly His Tyr
      406          100          105          110
E--> 408 Thr Glu Xaa Ala Glu Leu Val Asp Asn Val Leu Asp Val Val Arg Lys

```

*same
format
error*

↓

see p. 6, too

see

*item 9
on Enol
Summary
Sheet*

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

409          115          120          125
411 Glu Ala Glu Gly Cys Asp Cys Leu Gln Gly Phe Gln Leu Thr His Ser
412          130          135          140
E--> 414 Leu Gly Gly Gly Thr Gly Ser Xaa Met Gly Xaa Leu Leu Ile Xaa Lys
415 145          150          155
E--> 417 Ile Arg Glu Glu Tyr Pro Asp Arg Ile Xaa Ser Ser Phe Xaa Val Val
418          165          170          175
E--> 420 Pro Ser Pro Lys Val Xaa Asp Xaa Val Val Glu Pro Tyr Asn Ala Thr
421          180          185          190
E--> 423 Leu Ser Val His Gln Leu Val Glu Asn Thr Asp Glu Thr Xaa Cys Ile
424          195          200          205
E--> 426 Asp Asn Glu Ala Leu Tyr Asp Ile Cys Phe Arg Xaa Xaa Lys Leu Xaa
427          210          215          220
429 Asn Pro Thr Tyr Gly Asp Leu Asn His Leu Val Ser Val Thr Met Ser
430 225          230          235          240
E--> 432 Xaa Val Thr Thr Cys Leu Arg Phe Pro Gly Gln Leu Xaa Ala Asp Xaa
433          245          250          255
E--> 435 Arg Lys Leu Ala Val Asn Met Xaa Pro Phe Pro Arg Leu His Phe Phe
436          260          265          270
E--> 438 Met Pro Gly Phe Ala Pro Leu Ser Xaa Lys Gly Xaa Gln Ala Tyr Arg
439          275          280          285
E--> 441 Ala Leu Thr Val Ala Glu Xaa Gln Xaa Met Phe Asp Ala Lys Asn
442          290          295          300
E--> 444 Met Met Ala Ala Cys Asp Pro Arg His Gly Xaa Tyr Leu Thr Xaa Ala
445 305          310          315          320
E--> 447 Ala Met Phe Arg Gly Arg Met Ser Xaa Arg Glu Val Asp Asp Gln Met
448          325          330          335
450 Met Ser Val Gln Asn Lys Asn Ser Ser Tyr Phe Val Glu Trp Ile Pro
451          340          345          350
E--> 453 Asn Asn Val Lys Thr Xaa Val Cys Asp Ile Pro Xaa Arg Gly Leu Lys
454          355          360          365
E--> 456 Met Ala Ala Thr Phe Val Gly Asn Xaa Thr Ala Xaa Gln Glu Leu Phe
457          370          375          380
459 Lys Arg Ile Ser Glu Gln Phe Thr Ala Met Phe Arg Arg Lys Ala Phe
460 385          390          395          400
E--> 462 Leu His Xaa Tyr Thr Xaa Glu Gly Met Asp Glu Met Glu Phe Thr Glu
463          405          410          415
465 Ala Glu Ser Asn Met Asn Asp Leu Ile Ser Glu Tyr Gln Gln Tyr Gln
466          420          425          430
E--> 468 Glu Ala Xaa Ala Asp Asp Met Gly Asp Leu Asp Ala Glu Gly Ala Glu
469          435          440          445
471 Glu Ala Tyr Pro Glu Glu
472          450
476 <210> SEQ ID NO: 5
477 <211> LENGTH: 1428
478 <212> TYPE: DNA
479 <213> ORGANISM: Cylicocyclus nassatus
481 <220> FEATURE:
482 <221> NAME/KEY: CDS

```

*same
env*

pr 8-9

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

483 <222> LOCATION: (1)..(1362)

485 <400> SEQUENCE: 5

```

486 aag ttc tct act gca ata atg cgt gag atc gtg cat gta caa gct gga 48
487 Lys Phe Ser Thr Ala Ile Met Arg Glu Ile Val His Val Gln Ala Gly
488 1 5 10 15
490 cag tgt gga aac caa att ggc tcc aag ttt tgg gaa gtg atc tct gac 96
491 Gln Cys Gly Asn Gln Ile Gly Ser Lys Phe Trp Glu Val Ile Ser Asp
492 20 25 30
494 gag cac ggc att aag cct gat ggc aca tac cac gga gaa tct gat tta 144
495 Glu His Gly Ile Lys Pro Asp Gly Thr Tyr His Gly Glu Ser Asp Leu
496 35 40 45
498 caa tta gaa cga atc aat gtg tac tat aat gaa gca cat gga ggc aaa 192
499 Gln Leu Glu Arg Ile Asn Val Tyr Tyr Asn Glu Ala His Gly Gly Lys
500 50 55 60
502 tat gtc ccg cgt gca gtt ctt gtt gat ctc gag ccc gga act atg gat 240
503 Tyr Val Pro Arg Ala Val Leu Val Asp Leu Glu Pro Gly Thr Met Asp
504 65 70 75 80
506 tcg gtc cgt tcc ggg cca tac ggg caa ttg ttc cgc cct gat aac tac 288
507 Ser Val Arg Ser Gly Pro Tyr Gly Gln Leu Phe Arg Pro Asp Asn Tyr
508 85 90 95
510 gtg ttt gga cag tct ggc gca gga aat aac tgg gca aaa ggt cac tac 336
511 Val Phe Gly Gln Ser Gly Ala Gly Asn Trp Ala Lys Gly His Tyr
512 100 105 110
514 act gaa ggc gct gaa ctt gtt gac aat gta cta gat gta gtg cga aaa 384
515 Thr Glu Gly Ala Glu Leu Val Asp Asn Val Leu Asp Val Val Arg Lys
516 115 120 125
518 gaa gct gaa gga tgt gac tgt ctg cag ggc ttc cag cta act cac tca 432
519 Glu Ala Glu Gly Cys Asp Cys Leu Gln Gly Phe Gln Leu Thr His Ser
520 130 135 140
522 ctt gga gga ggt acc gga tcg ggt atg ggc act ctc ctc atc tcc aaa 480
523 Leu Gly Gly Gly Thr Gly Ser Gly Met Gly Thr Leu Leu Ile Ser Lys
524 145 150 155 160
526 att cgg gag gag tat cct gat aga atc atg tcc tcg ttc tcc gtt gtt 528
527 Ile Arg Glu Glu Tyr Pro Asp Arg Ile Met Ser Ser Phe Ser Val Val
528 165 170 175
530 ccc tca cca aag gtc tcc gac acc gtt gtg gag ccg tac aat gct acc 576
531 Pro Ser Pro Lys Val Ser Asp Thr Val Val Glu Pro Tyr Asn Ala Thr
532 180 185 190
534 cta tcc gtt cat cag ttg gtt gaa aat aca gac gag act ttc tgt att 624
535 Leu Ser Val His Gln Leu Val Glu Asn Thr Asp Glu Thr Phe Cys Ile
536 195 200 205
538 gac aat gaa gct ctt tat gat att tgc ttc cgc act ttg aaa ctc acg 672
539 Asp Asn Glu Ala Leu Tyr Asp Ile Cys Phe Arg Thr Leu Lys Leu Thr
540 210 215 220
542 aac cca act tat gga gat ctg aat cat ctt gtg tct gta aca atg tct 720
543 Asn Pro Thr Tyr Gly Asp Leu Asn His Leu Val Ser Val Thr Met Ser
544 225 230 235 240
546 ggt gtc act aca tgt ctt cgc ttc cct ggc caa ttg aat gcc gat cta 768
547 Gly Val Thr Thr Cys Leu Arg Phe Pro Gly Gln Leu Asn Ala Asp Leu

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

548          245          250          255
550 cgt aaa cta gct gtt aac atg gtt cca ttc cct cgt ctt cac ttc ttt 816
551 Arg Lys Leu Ala Val Asn Met Val Pro Phe Pro Arg Leu His Phe Phe
552          260          265          270
554 atg cct ggc ttt gct ccc ctc tct gct aaa ggc gct cag gct tac cgt 864
555 Met Pro Gly Phe Ala Pro Leu Ser Ala Lys Gly Ala Gln Ala Tyr Arg
556          275          280          285
558 gct ctt act gta gcc gag cta act caa cag atg ttc gat gcc aaa aat 912
559 Ala Leu Thr Val Ala Glu Leu Thr Gln Gln Met Phe Asp Ala Lys Asn
560          290          295          300
562 atg atg gcc gct tgc gac cct cga cat gga cgt tat ctc acc gtc gca 960
563 Met Met Ala Ala Cys Asp Pro Arg His Gly Arg Tyr Leu Thr Val Ala
564 305          310          315          320
E--> 566 gcc atg ttc cga gga cga atg agc atg agg gag gta gac gac cag atg
567 1008
568 Ala Met Phe Arg Gly Arg Met Ser Met Arg Glu Val Asp Asp Gln Met
569          325          330          335
E--> 571 atg tca gtg cag aac aag aac tcc tca tac ttc gta gag tgg att ccg
572 1056
573 Met Ser Val Gln Asn Lys Asn Ser Ser Tyr Phe Val Glu Trp Ile Pro
574          340          345          350
E--> 576 aac aac gtc aag acc gct gta tgc gac att ccg ccg aga gga ctg aaa
577 1104
578 Asn Asn Val Lys Thr Ala Val Cys Asp Ile Pro Pro Arg Gly Leu Lys
579          355          360          365
E--> 581 atg gcc gct acc ttc gtt gga aac tca act gcc atc caa gag ctg ttc
582 1152
583 Met Ala Ala Thr Phe Val Gly Asn Ser Thr Ala Ile Gln Glu Leu Phe
584          370          375          380
E--> 586 aag cgc att tca gaa caa ttc aca gct atg ttc cgc cgc aaa gcg ttc
587 1200
588 Lys Arg Ile Ser Glu Gln Phe Thr Ala Met Phe Arg Arg Lys Ala Phe
589 385          390          395          400
E--> 591 ttg cat tgg tat act ggt gaa ggt atg gac gag atg gag ttc act gaa
592 1248
593 Leu His Trp Tyr Thr Gly Glu Gly Met Asp Glu Met Glu Phe Thr Glu
594          405          410          415
E--> 596 gcc gag tcc aac atg aat gat ctc atc tcc gaa tac cag caa tac cag
597 1296
598 Ala Glu Ser Asn Met Asn Asp Leu Ile Ser Glu Tyr Gln Gln Tyr Gln
599          420          425          430
E--> 601 gaa gct aca gct gac gat atg ggc gat ctc gat gcg gaa ggc gct gaa
602 1344
603 Glu Ala Thr Ala Asp Asp Met Gly Asp Leu Asp Ala Glu Gly Ala Glu
604          435          440          445
E--> 606 gag gct tac cct gaa gaa tagacagcag attgtgttgc gttgttcgtt
607 1392
608 Glu Ala Tyr Pro Glu Glu
609          450

```

see
item 1
on Error
Summary
Sheet

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002
TIME: 10:44:28

Input Set : A:\pto.vsk.txt
Output Set: N:\CRF3\02082002\J030566.raw

E--> 611 tctctgtgtc aatgcgaaat acacattgat tgcgtt

612 1428

710 <210> SEQ ID NO: 7

711 <211> LENGTH: 1429

712 <212> TYPE: DNA

713 <213> ORGANISM: Cylicocycclus nassatus

715 <220> FEATURE:

716 <221> NAME/KEY: CDS

717 <222> LOCATION: (1)..(1362)

719 <400> SEQUENCE: 7

720 aag ttc tct act gca ata atg cgt gag atc gtg cat gta caa gct gga 48
721 Lys Phe Ser Thr Ala Ile Met Arg Glu Ile Val His Val Gln Ala Gly
722 1 5 10 15
724 cag tgt gga aac caa att ggt tcc aag ttt tgg gaa gtg atc tct gac 96
725 Gln Cys Gly Asn Gln Ile Gly Ser Lys Phe Trp Glu Val Ile Ser Asp
726 20 25 30
728 gag cac ggc att aag ccc gat ggc aca tac cac gga gaa tct gac tta 144
729 Glu His Gly Ile Lys Pro Asp Gly Thr Tyr His Gly Glu Ser Asp Leu
730 35 40 45
732 caa tta gaa cga atc aat gtg tac tat aat gaa gca cat gga ggc aaa 192
733 Gln Leu Glu Arg Ile Asn Val Tyr Tyr Asn Glu Ala His Gly Gly Lys
734 50 55 60
736 tat gtc ccg cgt gca gtt ctt gtt gat ctc gag ccc gga act atg gat 240
737 Tyr Val Pro Arg Ala Val Leu Val Asp Leu Glu Pro Gly Thr Met Asp
738 65 70 75 80
740 tcg gtc cgt tcc ggg cca tac ggg caa ttg ttc cgc cct gat aac tac 288
741 Ser Val Arg Ser Gly Pro Tyr Gly Gln Leu Phe Arg Pro Asp Asn Tyr
742 85 90 95
744 gtg ttt gga cag tct ggc gca gga aat aac tgg gca aaa ggt cac tac 336
745 Val Phe Gly Gln Ser Gly Ala Gly Asn Asn Trp Ala Lys Gly His Tyr
746 100 105 110
748 act gaa ggc gct gaa ctt gtc gac aat gta cta gat gta gtg cga aaa 384
749 Thr Glu Gly Ala Glu Leu Val Asp Asn Val Leu Asp Val Val Arg Lys
750 115 120 125
752 gaa gct gaa gga tgt gac tgt ctg cag ggc ttc cag cta act cac tca 432
753 Glu Ala Glu Gly Cys Asp Cys Leu Gln Gly Phe Gln Leu Thr His Ser
754 130 135 140
756 ctt gga gga ggt acc gga tcg agt atg ggc act ctc ctc atc ttc aaa 480
757 Leu Gly Gly Gly Thr Gly Ser Ser Met Gly Thr Leu Leu Ile Phe Lys
758 145 150 155 160
760 att cgg gag gag tat cct gat aga atc ata tcc tcg ttc ttc gtt gtt 528
761 Ile Arg Glu Glu Tyr Pro Asp Arg Ile Ile Ser Ser Phe Phe Val Val
762 165 170 175
764 ccc tca cca aag gtc tcc gac acc gtt gtg gag ccg tac aat gct acc 576
765 Pro Ser Pro Lys Val Ser Asp Thr Val Val Glu Pro Tyr Asn Ala Thr
766 180 185 190
768 cta tcc gtt cat cag ttg gtt gaa aat aca gac gag act ttc tgt att 624
769 Leu Ser Val His Gln Leu Val Glu Asn Thr Asp Glu Thr Phe Cys Ile
770 195 200 205

same env

pp 10-11

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

772 gac aat gaa gct ctt tat gat att tgc ttc cgc act ttg aaa ctc acg 672
773 Asp Asn Glu Ala Leu Tyr Asp Ile Cys Phe Arg Thr Leu Lys Leu Thr
774 210 215 220
776 aac cca act tat gga gat ctg aat cat ctt gtg tct gta aca atg tct 720
777 Asn Pro Thr Tyr Gly Asp Leu Asn His Leu Val Ser Val Thr Met Ser
778 225 230 235 240
780 ggt gtc act aca tgt ctt cgc ttc cct ggc caa ttg agt gcc gat cta 768
781 Gly Val Thr Thr Cys Leu Arg Phe Pro Gly Gln Leu Ser Ala Asp Leu
782 245 250 255
784 cgt aaa cta gct gtt aac atg gtt cca ttc cct cgt ctt cac ttc ttt 816
785 Arg Lys Leu Ala Val Asn Met Val Pro Phe Pro Arg Leu His Phe Phe
786 260 265 270
788 atg cct ggc ttt gct ccc ctc tct gct aaa ggc gct cag gct tac cgt 864
789 Met Pro Gly Phe Ala Pro Leu Ser Ala Lys Gly Ala Gln Ala Tyr Arg
790 275 280 285
792 gct ctt act gta gcc gag cta act caa cag atg ttc gat gcc aaa aat 912
793 Ala Leu Thr Val Ala Glu Leu Thr Gln Gln Met Phe Asp Ala Lys Asn
794 290 295 300
796 atg atg gcc gct tgc gac cct cga cat gga cgt tat ctc acc gtc gca 960
797 Met Met Ala Ala Cys Asp Pro Arg His Gly Arg Tyr Leu Thr Val Ala
798 305 310 315 320
E--> 800 gcc atg ttc cga gga cga atg agc atg agg gag gta gac gac cag atg
801 1008
802 Ala Met Phe Arg Gly Arg Met Ser Met Arg Glu Val Asp Asp Gln Met
803 325 330 335
E--> 805 atg tca gtg cag aac aag aac tcc tca tac ttc gta gag tgg att ccg
806 1056
807 Met Ser Val Gln Asn Lys Asn Ser Ser Tyr Phe Val Glu Trp Ile Pro
808 340 345 350
E--> 810 aac aac gtc aag acc gct gta tgc gac att ccg ccg aga gga ctg aaa
811 1104
812 Asn Asn Val Lys Thr Ala Val Cys Asp Ile Pro Pro Arg Gly Leu Lys
813 355 360 365
E--> 815 atg gcc gct acc ttc gtt gga aac tca act gcc att caa gag ctg ttc
816 1152
817 Met Ala Ala Thr Phe Val Gly Asn Ser Thr Ala Ile Gln Glu Leu Phe
818 370 375 380
E--> 820 aag cgc att tca gaa caa ttt aca gct atg ttc cgc cgc aaa gcg ttc
821 1200
822 Lys Arg Ile Ser Glu Gln Phe Thr Ala Met Phe Arg Arg Lys Ala Phe
823 385 390 395 400
E--> 825 ttg cat tgg tat act ggt gaa ggt atg gac gag atg gag ttc act gaa
826 1248
827 Leu His Trp Tyr Thr Gly Glu Gly Met Asp Glu Met Glu Phe Thr Glu
828 405 410 415
E--> 830 gcc gag tcc aac atg aat gat ctc atc tcc gaa tac caa caa tac cag
831 1296
832 Ala Glu Ser Asn Met Asn Asp Leu Ile Ser Glu Tyr Gln Gln Tyr Gln
833 420 425 430

```

*same
error*

*(see
item 1)*

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002
TIME: 10:44:28

Input Set : A:\pto.vsk.txt
Output Set: N:\CRF3\02082002\J030566.raw

E--> 835 gaa gct acc gct gac gat atg ggc gat ctc gat gcg gaa ggc gct gaa
836 1344
837 Glu Ala Thr Ala Asp Asp Met Gly Asp Leu Asp Ala Glu Gly Ala Glu
838 435 440 445 *same*
E--> 840 gag gct tac cct gag gaa tagaacagca gattgtgttg cgttgttcgt
841 1392
842 Glu Ala Tyr Pro Glu Glu
843 450
E--> 845 ttctctgtgt caatgcgaaa tacacattga ttgcgtt
846 1429
944 <210> SEQ ID NO: 9
945 <211> LENGTH: 1428
946 <212> TYPE: DNA
947 <213> ORGANISM: Cylicocyclus nassatus
949 <220> FEATURE:
950 <221> NAME/KEY: CDS
951 <222> LOCATION: (1)..(1362)
953 <400> SEQUENCE: 9
954 aag ttc tct act gca ata atg cgt gag atc gtg cat gta caa gct gga 48
955 Lys Phe Ser Thr Ala Ile Met Arg Glu Ile Val His Val Gln Ala Gly
956 1 5 10 15
958 cag tgt gga aac caa att ggt tcc aag ttc tgg gaa gtg atc tct gac 96
959 Gln Cys Gly Asn Gln Ile Gly Ser Lys Phe Trp Glu Val Ile Ser Asp
960 20 25 30
962 gag cac ggc att aag ccc gac ggc aca tac cat gga gaa tct gat cta 144
963 Glu His Gly Ile Lys Pro Asp Gly Thr Tyr His Gly Glu Ser Asp Leu
964 35 40 45
966 caa tta gaa cga atc aat gtg tac tat aat gaa gca cat gga ggc aag 192
967 Gln Leu Glu Arg Ile Asn Val Tyr Tyr Asn Glu Ala His Gly Gly Lys
968 50 55 60
970 tat gtc ccg cgt gca gtt ctt gtt gat ctc gag ccc gga act atg gat 240
971 Tyr Val Pro Arg Ala Val Leu Val Asp Leu Glu Pro Gly Thr Met Asp
972 65 70 75 80
974 tca gtc cgt tct ggg cca tac ggg caa ttg ttc cgc cct gat aac tac 288
975 Ser Val Arg Ser Gly Pro Tyr Gly Gln Leu Phe Arg Pro Asp Asn Tyr
976 85 90 95
978 gtg ttt gga cag tct ggc gca gga aat aac tgg gca aaa ggt cac tac 336
979 Val Phe Gly Gln Ser Gly Ala Gly Asn Trp Ala Lys Gly His Tyr
980 100 105 110
982 act gaa ggc gct gaa ctt gtc gac aat gta cta gat gta gtg cga aaa 384
983 Thr Glu Gly Ala Glu Leu Val Asp Asn Val Leu Asp Val Val Arg Lys
984 115 120 125
986 gaa gct gaa gga tgt gac tgt ctg cag ggc ttc cag cta act cac tca 432
987 Glu Ala Glu Gly Cys Asp Cys Leu Gln Gly Phe Gln Leu Thr His Ser
988 130 135 140
990 ctt gga gga ggt acc gga tcg ggt atg ggc aca ctc ctc atc tcc aaa 480
991 Leu Gly Gly Gly Thr Gly Ser Gly Met Gly Thr Leu Leu Ile Ser Lys
992 145 150 155 160
994 att cgg gag gag tat cct gat aga atc atg tcc tcg ttc tcc gtt gtt 528

12-13

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

995 Ile Arg Glu Glu Tyr Pro Asp Arg Ile Met Ser Ser Phe Ser Val Val
996                      165                      170                      175
998 ccc tca cca aag gtc ttc gat act gtt gtg gag ccg tac aat gct acc 576
999 Pro Ser Pro Lys Val Phe Asp Thr Val Val Glu Pro Tyr Asn Ala Thr
1000                      180                      185                      190
1002 cta tcc gtt cat cag ttg gtt gaa aat aca gac gag act ttc tgt att 624
1003 Leu Ser Val His Gln Leu Val Glu Asn Thr Asp Glu Thr Phe Cys Ile
1004                      195                      200                      205
1006 gac aat gaa gct ctt tat gat att tgc ttc cgc acc ttg aaa ctc acg 672
1007 Asp Asn Glu Ala Leu Tyr Asp Ile Cys Phe Arg Thr Leu Lys Leu Thr
1008                      210                      215                      220
1010 aac cca act tat gga gat ctg aat cat ctt gtg tct gta aca atg tct 720
1011 Asn Pro Thr Tyr Gly Asp Leu Asn His Leu Val Ser Val Thr Met Ser
1012 225                      230                      235                      240
1014 ggt gtc act aca tgc ctt cgc ttc cct ggc caa ttg aat gcc gat cta 768
1015 Gly Val Thr Thr Cys Leu Arg Phe Pro Gly Gln Leu Asn Ala Asp Leu
1016                      245                      250                      255
1018 cgt aaa cta gct gtt aac atg gtt cca ttc cct cgt ctt cac ttc ttc 816
1019 Arg Lys Leu Ala Val Asn Met Val Pro Phe Pro Arg Leu His Phe Phe
1020                      260                      265                      270
1022 atg cct ggc ttt gct ccc ctc tct gcc aaa ggc gcc cag gct tac cgt 864
1023 Met Pro Gly Phe Ala Pro Leu Ser Ala Lys Gly Ala Gln Ala Tyr Arg
1024                      275                      280                      285
1026 gct ctt act gta gcc gag cta act caa cag atg ttc gat gcc aaa aat 912
1027 Ala Leu Thr Val Ala Glu Leu Thr Gln Gln Met Phe Asp Ala Lys Asn
1028                      290                      295                      300
1030 atg atg gcc gct tgc gac cct cga cat gga cgt tat ctc acc gtc gca 960
1031 Met Met Ala Ala Cys Asp Pro Arg His Gly Arg Tyr Leu Thr Val Ala
1032 305                      310                      315                      320
E--> 1034 gcc atg ttc cga gga cga atg agc atg agg gag gta gac gac cag atg
1035 1008
1036 Ala Met Phe Arg Gly Arg Met Ser Met Arg Glu Val Asp Asp Gln Met
1037                      325                      330                      335
E--> 1039 atg tca gtg cag aac aag aac tcc tca tac ttc gta gag tgg att ccg
1040 1056
1041 Met Ser Val Gln Asn Lys Asn Ser Ser Tyr Phe Val Glu Trp Ile Pro
1042                      340                      345                      350
E--> 1044 aac aac gtc aaa acc gct gta tgc gac att ccg ccg aga gga ctg aaa
1045 1104
1046 Asn Asn Val Lys Thr Ala Val Cys Asp Ile Pro Pro Arg Gly Leu Lys
1047                      355                      360                      365
E--> 1049 atg gcc gct acc ttc gtt gga aac tca act gcc att caa gag ctg ttc
1050 1152
1051 Met Ala Ala Thr Phe Val Gly Asn Ser Thr Ala Ile Gln Glu Leu Phe
1052                      370                      375                      380
E--> 1054 aag cgc att tca gaa caa ttc aca gct atg ttc cgc cgc aaa gcg ttc
1055 1200
1056 Lys Arg Ile Ser Glu Gln Phe Thr Ala Met Phe Arg Arg Lys Ala Phe
1057 385                      390                      395                      400

```

*same
env*

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002
TIME: 10:44:28

Input Set : A:\pto.vsk.txt
Output Set: N:\CRF3\02082002\J030566.raw

E--> 1059 ttg cat tgg tat act ggt gaa ggt atg gac gag atg gag ttc act gaa
1060 1248
1061 Leu His Trp Tyr Thr Gly Glu Gly Met Asp Glu Met Glu Phe Thr Glu
1062 405 410 415
E--> 1064 gcc gag tcc aac atg aat gat ctc atc tcc gaa tac cag caa tac cag
1065 1296
1066 Ala Glu Ser Asn Met Asn Asp Leu Ile Ser Glu Tyr Gln Gln Tyr Gln
1067 420 425 430
E--> 1069 gaa gct acc gct gac gat atg ggc gat ctc gat gcg gaa ggc gct gaa
1070 1344
1071 Glu Ala Thr Ala Asp Asp Met Gly Asp Leu Asp Ala Glu Gly Ala Glu
1072 435 440 445
E--> 1074 gag gct tac cct gaa gaa tagacagcag attgtgttgc gttgttcggt
1075 1392
1076 Glu Ala Tyr Pro Glu Glu
1077 450
E--> 1079 tctctgtgtc aatgcgaaat acacattgat tgcggt
1080 1428
1178 <210> SEQ ID NO: 11
1179 <211> LENGTH: 2655
1180 <212> TYPE: DNA
1181 <213> ORGANISM: Cylicocyclus nassatus
1183 <220> FEATURE:
1184 <221> NAME/KEY: intron
1185 <222> LOCATION: (1)..(18)
1187 <220> FEATURE:
1188 <221> NAME/KEY: intron
1189 <222> LOCATION: (1)..(18)
1191 <220> FEATURE:
1192 <221> NAME/KEY: intron
1193 <222> LOCATION: (76)..(358)
1195 <220> FEATURE:
1196 <221> NAME/KEY: intron
1197 <222> LOCATION: (469)..(637)
1199 <220> FEATURE:
1200 <221> NAME/KEY: intron
1201 <222> LOCATION: (865)..(1374)
1203 <220> FEATURE:
1204 <221> NAME/KEY: intron
1205 <222> LOCATION: (1666)..(1723)
1207 <220> FEATURE:
1208 <221> NAME/KEY: intron
1209 <222> LOCATION: (1915)..(1966)
1211 <220> FEATURE:
1212 <221> NAME/KEY: intron
1213 <222> LOCATION: (2064)..(2119)
1215 <220> FEATURE:
1216 <221> NAME/KEY: intron
1217 <222> LOCATION: (2306)..(2354)

same

on 14-15

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:28

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

```

1219 <220> FEATURE:
1220 <221> NAME/KEY: intron
1221 <222> LOCATION: (2475)..(2523)
1223 <220> FEATURE:
1224 <221> NAME/KEY: intron
1225 <222> LOCATION: (2592)..(2655)
1227 <400> SEQUENCE: 11
1228 aagttctcta ctgcaataat gcgtgagatc gtgcatgtac aagctggaca rtgtggaaac 60
1229 caaattgggt ccaaggtrcg gtagttyrr twktytrytg atcgtaattc sggmgytytr 120
1230 dagtrryttt ttycgytgyy ratgttgcat yrtgttgca taaascyraa aawtcawwag 180
1231 rcgaggctgt aaaagsactt ytacttttra atmcrytgta gcagcatgag tcatcrgcat 240
1232 gtttgcatgt sgttttttat gcgcwgawcc ytcagaaga tgagaatgcg wtccaytgag 300
1233 cwtagartct grctttctct cgttawctaa ratcaamta carcrytyca ttttkcagtt 360
1234 ytggaagtgt atctctgacg agcacggcat taagccygay ggcacatacc ayggagaatc 420
1235 tgatytacaa ttagaacgaa tcaatgtgta ctataatgaa gcacatgggt agtcgtayat 480
1236 ccgcttcggt gtytccmat gcagrccyct tcagttttta taactgycga aatatcgatc 540
1237 gggctctttt gcagcggccw ygattacgca ataccayygc ygcygcagtg gcrgtcgaaa 600
1238 ttaatgttgt caracgtgaa aatgtggtgc tttayggagg caartatgtc ccgcgtgcag 660
1239 ttcttggtga tctcgagccc ggaactatgg attcgggtccg ytcggggcca tacgggcaat 720
1240 tgttccgccc tgataactac gtgtttggac agtctggcgc aggaataaac tgggcaaaag 780
1241 gtcactacac tgaaggygct gaacttgtcg acaatgtact agatgtagtg cgaagaagaag 840
1242 ctgaaggatg tgactgtctg caggtaaatt tccaagtagt agcaggaaat ggtwtgtgra 900
1243 tagcataaca aaagtcatag aaggaatatg gacgctagtc aaaacaaagw tggacgttar 960
E--> 1244 tcggtcgtcc gggacarttt ggaagtcatt gggtcascaa cacgcttttt tamaagtaca
1245 1020
E--> 1246 tcatactctt ttcccacgaa aagctatttt gcgtattacg ggggtacaggg gaggggtcaa
1247 1080
E--> 1248 aatcacagat tgctgaaaty tggttcactg ragttattgr tgaaaatcat attgattttg
1249 1140
E--> 1250 cttgctactg ctttcttttr aggctatgct ttacaatctt ggggcctgga taaccgaatt
1251 1200
E--> 1252 gtcygaagtt tttcggtcatt cacggacggg gaaggggcat artatcgta kttcttgkta
1253 1260
E--> 1254 tttcgcagca tatggcaatc tytccacttc tgacaagttt tcygtagaaa atatwcttca
1255 1320
E--> 1256 aggtstcaag aacyttgctg ctagrgctgt aaaccaayct gtatcycttt cagggcttcc
1257 1380
E--> 1258 agctaactca ctcaattgga ggaggtaccg gatcgggtat gggcactctc ctcatctcca
1259 1440
E--> 1260 aaattcggga ggagtatcct gatagaatca tgtcctcgtt ctccgttggt ccctcaccaa
1261 1500
E--> 1262 aggtctccga caccgttggt gagccgtaca atgctaccct atccgttcat cagttgggtg
1263 1560
E--> 1264 aaaatacaga cgaracttwc tgtattgaca atgaagctct ttatgatatt tgcttccgca
1265 1620
E--> 1266 cyytgaaact cacsaaacca acttatggag atctgaatca tcttggttrg yrayatkcsa
1267 1680
E--> 1268 ytgctgagct tdgtrgaatt tvctaattwt ktyhamtdty yagtgctctgt aacaatgtct
1269 1740

```


RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002
TIME: 10:44:28

Input Set : A:\pto.vsk.txt
Output Set: N:\CRF3\02082002\J030566.raw

E--> 1270 ggygtcacta catgycttcg cttccctggc caattgrayg ccgatctwgc taaactagct
1271 1800
E--> 1272 gttaacatgg ytccattccc tcgtcttcac ttyttyatgc ctggctttgc tccccctctct
1273 1860
E--> 1274 gcyaaaggcg cycaggetta ccgtgctctt actgtagccg agctwacyca rcagggtgcgt
1275 1920
E--> 1276 ctgcttatacr ttgwtgayrt gtgtttattc kttgtrtatt ttayagatgt tcgatgccaa
1277 1980
E--> 1278 aaatatgatg gccgcttgcg accctcgaca tggacrttat ctcaccgtyg cagccatggt
1279 2040
E--> 1280 ccgaggacga atgagcayga gggtaagtgg mtkmttggyg ytytaryaya rctcrgacga
1281 2100
E--> 1282 awtgcgtgta tgcmtagga rgtagacgac cagatgatgt cagtgcagaa caagaactcc
1283 2160
E--> 1284 tcatacttcg tagagtggat tccgaacaac gtcaaraccg cygtatgcga cattccgccc
1285 2220
E--> 1286 agaggactga aaatggccgc taccttcggt ggaaacycaa ctgccatcca agagctgtty
1287 2280
E--> 1288 aagcgcattt cagaacaatt yacaggtttg tttgtgcaya ttatggtgaa agcagattar
1289 2340
E--> 1290 ttgcgaygtt gcagctatgt tccgccgcaa agcgtyttg catygggtaya ctggwgaagg
1291 2400
E--> 1292 tatggaygag atggagttca ctgaagccga gtccaacatg aatgatctca tctccgaata
1293 2460
E--> 1294 ccarcaatac caggttcggc tgytyttcwt rgayactgtr tttaataatt wtytytgct
1295 2520
E--> 1296 aggaagctac cgctgacgat atgggcgatc tcgatgcgga aggcgctgaa gaggcttacc
1297 2580
E--> 1298 ctgargaata gamcagcaga ytggtgttcg ttgttcgttt ctctrtgtca atgcgaaata
1299 2640
E--> 1300 cacattgatt gcgtt
1301 2655

FYI

Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding
explanation is presented in the <220> to <223> fields of
each sequence using n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:29

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

L:9 M:270 C: Current Application Number differs, Replaced Application Number
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:106 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1008 SEQ:1
M:254 Repeated in SeqNo=1
L:257 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:261 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:261 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:273 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:273 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:281 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:281 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:289 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:289 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:293 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:297 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:301 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:305 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:305 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:313 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:313 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:317 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:317 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:321 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:321 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:325 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:325 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:329 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:329 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:332 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1008 SEQ:3
L:334 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:334 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
M:254 Repeated in SeqNo=3
L:344 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:344 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:349 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:349 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:359 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:359 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:369 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:3
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:390 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
M:340 Repeated in SeqNo=4
L:566 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1008 SEQ:5
M:254 Repeated in SeqNo=5

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/030,566

DATE: 02/08/2002

TIME: 10:44:29

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02082002\J030566.raw

L:800 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1008 SEQ:7
M:254 Repeated in SeqNo=7
L:1034 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1008 SEQ:9
M:254 Repeated in SeqNo=9
L:1244 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:1020 SEQ:11
M:254 Repeated in SeqNo=11
L:1782 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:48
L:1782 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:48
L:1782 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
L:1795 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:49
L:1795 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:49
L:1795 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49
L:1808 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:50
L:1808 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:50
L:1808 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50